

Application No. 10/765,416
Filed: January 27, 2004
TC Art Unit: 3742
Confirmation No.: 2182

REMARKS

In response to an Office Action mailed on March 11, 2005, Applicant respectfully requests that the above-listed Amendments be entered and the Application be reconsidered. With entry of the above-listed Amendments, claims 1, 3 and 6 are amended. Claim 1 is independent, and the remaining claims are dependent.

The Examiner objected to the Abstract, because the Abstract includes terms such as "comprises" and "the invention is applicable to." The Abstract has been amended to overcome this objection.

Claim 1 has been amended to clarify that the channels formed by the indentations in the inside face of the at least one of the first and second parts are for cooling fluid circulation. Claim 1 has also been amended to make a stylistic change. Claims 3 and 6 have been amended to correct minor typographical and grammatical errors. None of these amendments is in response to a rejection, and none of the amendments narrow the scope of the respective claim.

The Examiner rejected claims 1, 3-5, 9 and 10 under 35 U.S.C. 103(a) as being obvious over US Pat. No. 5,520,976 to Giannetti, *et al.*, in view of US Pat. No. 6,397,581 to Vidal, *et al.*

Giannetti discloses a composite enclosure for electronic hardware. The enclosure provides electromagnetic interference (EMI) shielding for electronic modules installed in the enclosure. Giannetti's enclosure includes a plurality of walls 12 and top and bottom card guides 16, into which the electronic modules are installed. Each card guide 16 includes a plurality of parallel guide ribs 20 that are integral with, or securely attached to, a respective cold wall 22. The cold wall 22 receives a heat exchanger, such as a series of cooling fins attached to the cold wall. Air or another cooling medium is forced through a plenum 24, over the heat exchanger, to extract heat therefrom. (Column 3, lines 29-67 and Fig. 1.)

Vidal discloses a composite wall for a heat exchanger. The wall includes a heat shield 12 attached to an intermediate portion 14. The heat shield 12 is made of a composite material. The intermediate portion 14 is attached to a support structure 18. Fluid circulation channels 16 are defined between the heat shield 12 and the intermediate portion 14. The fluid circulation channels

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16 are machined in the face of the intermediate portion 14 that is adjacent the heat shield 12 before the intermediate portion is joined to the heat shield. The intermediate portion 14 is brazed in place.

The disclosed invention is an active cooling panel that can be used to make a heat exchanger wall, such as a heat exchanger wall of a combustion chamber or part of a rocket nozzle. The claimed invention includes first and second parts, each made of thermal structural composite material. The first and second parts are assembled together by bonding their respective inside faces to each other. Cooling fluid circulation channels are formed by indentations on the inside face of at least one of the first and second parts. A sealing layer is bonded to at least one of the first and second parts, however the sealing layer is bonded at a distance from the assembled-together inside faces of the first and second parts.

The Examiner asserted that Giannetti (citing column 5, lines 36-40) discloses an active cooling panel that includes a sealing layer 34 situated at a distance from the assembled faces. The Applicant respectfully submits that this assertion is not supported by the Giannetti disclosure. The layer 34 discussed in the cited portion of Giannetti is part of one of the walls 12 of the enclosure, not part of the cold wall 22. (Column 2, lines 63-64 and column 5, lines 11-14.) The walls 12 of the enclosure provide EMI shielding, not cooling. FIG. 1A (discussed in the portion of Giannetti cited by the Examiner) is a cross-sectional view of the wall 12 of the enclosure depicted in FIG. 1, not a cross-section of the cold wall 22. The sealing layer 34 provides EMI shielding for the enclosure. (Column 4, lines 32-36.) The layer 34 plays no role in sealing the cold wall 22 against escaping air or another cooling medium. Furthermore, the layer 34 is not bonded to any portion of the cold wall 22, as recited in claim 1.

No art of record, either alone or in combination, discloses or suggests an active cooling panel that includes first and second parts, each having an inside face, the parts being assembled together by bonding their inside faces together, cooling fluid circulation channels formed by indentations in the inside face of at least one of the first and second parts, and a sealing layer bonded to at least one of the first and second parts and situated at a distance from the assembled-together inside faces thereof, as recited in claim 1. For at least this reason, claim 1 is believed to be allowable.

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Claims 3-5, 9 and 10 depend directly or indirectly from claim 1. These claims are, therefore, believed to be allowable, for at least the reasons discussed above with respect to claim 1.

The Examiner rejected claim 7 under 35 U.S.C. 103(a) as being obvious over Giannetti in view of Vidal and further in view of US patent number 5,154,352 to Buckreus ("Buckreus"). Buckreus discloses an aircraft engine nozzle that includes cooling ducts 8.

The Examiner rejected claim 8 under 35 U.S.C. 103(a) as being obvious over Giannetti in view of Vidal and further in view of US Patent Application Publication No. US 2004/0182557 to Stroobants ("Stroobants"). Stroobants discloses a decorative radiator.

The Examiner rejected claim 2 under 35 U.S.C. 103(a) as being obvious over Giannetti in view of Vidal and further in view of US patent number 5,022,459 to Chiles, *et al.* ("Chiles"). Chiles discloses a flexible-hose heat exchanger in which an environmental fabric layer 40 is disposed between two layers of asphalt 38 and 42. (Column 5, lines 28-31.)

None of the cited references, either alone or in combination, discloses or suggests an active cooling panel, as recited in claim 2, 7 or 8. Furthermore, claims 2, 7 and 8 depend directly or indirectly from claim 1. These claims are, therefore, believed to be allowable, for at least the reasons discussed above with respect to claim 1.

The Applicant notes with appreciation the allowable subject matter identified by the Examiner in claim 6. The Examiner objected to claim 6, because the claim depends upon a rejected base claim (claim 2). However, as discussed above, it is believed that claim 2 is allowable. Thus, it is believed that claim 6 is allowable, without further amendment.

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For all the foregoing reasons, it is respectfully submitted that the present Application is in a condition for allowance, and such action is earnestly solicited. The Examiner is encouraged to telephone the undersigned attorney to discuss any matter that would expedite allowance of the present Application.

Respectfully submitted,

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